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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/777,295 | 02/12/2004 | Delbert E. Day | UMO 1553.3 | 5755 |

321 7590 12/10/2007
SENNIGER POWERS
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

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| EXAMINER |
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KENNEDY, SHARON E

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| ART UNIT | PAPER NUMBER |
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1615

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| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

12/10/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

Office Action Summary

Application No.

10/777,295

Applicant(s)

DAY ET AL.

Examiner

Sharon E. Kennedy

Art Unit

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 8-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 55-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 05/15/2004.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I in the reply filed on September 20, 2007 is acknowledged. The traversal is on the ground(s) that there is no burden on the examiner to examine all of the claims, or at least combine some of the groups. This is not found persuasive because the various groups are classified in different art areas, for example, and in addition the scopes of the claims vary between the groups significantly, making examination of multiple inventions burdensome.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The disclosure is objected to because of the following informalities: The Brief Description of the Drawings does not clearly describe the multiple figures for Figures 5 and 6, which may be confusing at the PTO printer. To correct, in published paragraph [0014], line 1, applicant could change "FIG.5" to --FIGS. 5(a)-(d)--, and make a similar correction in published paragraph [0015] for Figures 6a and 6b.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 55-57 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the permitted ratios of the glass. As worded, the hydroxyapatite may be prepared from a glass containing, for example, 0% CaO, 0% Na₂O, 100% P₂O₅, 0% B₂O₃.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimp et al., US 5,702,677. Shimp discloses the hydroxyapatite spheres, which meet the claimed subject matter. Claim 6 is included in view that the claim does not define the porosity. Shimp discloses a porosity of less than 5%. Applicant's claim does not eliminate this possibility.

Claims 1-7, 55-57 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Day et al., US 6,358,531. Day discloses the identical method and results (porous shells from glass particles). See especially the Abstract, Figures, and the claims for a concise explanation of the Day invention. The alkali may be calcium (column 4, line 67). Although an aggregate does not appear to be explicitly disclosed, the examiner takes the position that it is inherent in view of the that the process is very

similar to that disclosed by applicant. See the detailed description of figure 3 (column 4, lines 11-35), which shows that the Ca^{2+} cations and PO_4^{4-} anions react in solution to form the phosphate gel on or around the microspheres or glass particles, while the center of the microspheres dissolve from the core. The examiner takes the position this results in the agglomerate claimed by applicant.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadic et al., (applicant's cite no. 11). The fast precipitation method discussed on page 2554 of Cite 11 results in the claimed agglomeration. Nothing in the claims requires the calcium phosphate bodies to have the structures described in the specification. Claims 5-7 are distinguished because the starting materials are dissolved (page 2555, column 1, see chemical equations, for example). These starting materials cannot produce the hollow bodies as described by applicant's specification, the starting materials must be slowly dissolved and replaced with a deposition coating as shown in applicant's Figure 1.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Paul et al., (applicant's cite no. 12). Paul discloses porous calcium phosphate spheres which are hollow and porous. The preparation is set forth beginning page 383, column 2, (see 2.1), and this procedure differs from applicant's procedure, however, the claims do not distinguish therefrom. Note is made of the brief product-by process step of applicant's claim 1, "product of an agglomeration as a plurality of water-soluble glass bodies is transformed into a plurality of calcium phosphate bodies." Regardless, the claims are anticipated by Paul. Applicant may argue that Paul does not disclose an agglomerate, however, this limitation is broadly interpreted, and the examiner takes the position that

the packed spheres disclosed on page 385, second column, lines 12-16, forming a matrix, meet the limitation.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Kennedy whose telephone number is 571/272-4948. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on 571/272-8373.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sharon E. Kennedy/
Sharon E. Kennedy
Primary Examiner
Art Unit 1615